TOSHIBA
COPY ▪ FAX ▪ PRINT

Corporate Office:
2 Musick
Irvine, California 92618-1631

East Coast:
959 Route 46 East, 5th Floor
Parsippany, New Jersey 07054
Tel: (973) 316-2700
Fax: (973) 263-2393

Midwest:
8770 W. Bryn Mawr Avenue, Suite 700
Chicago, Illinois 60631
Tel: (773) 380-6000
Fax: (773) 380-8077

South:
4855 Peachtree Industrial Blvd., Suite 210
Norcross, Georgia 30092-3024
Tel: (770) 209-8540
Fax: (770) 209-8556

West Coast:
142 Technology, Suite 150
Irvine, California 92618
Tel: (949) 462-6262
Fax: (949) 462-2700

Web Site:
www.copiers.toshiba.com or
www.fax.toshiba.com

e-STUDIO210C | e-STUDIO310C PRODUCT GUIDE

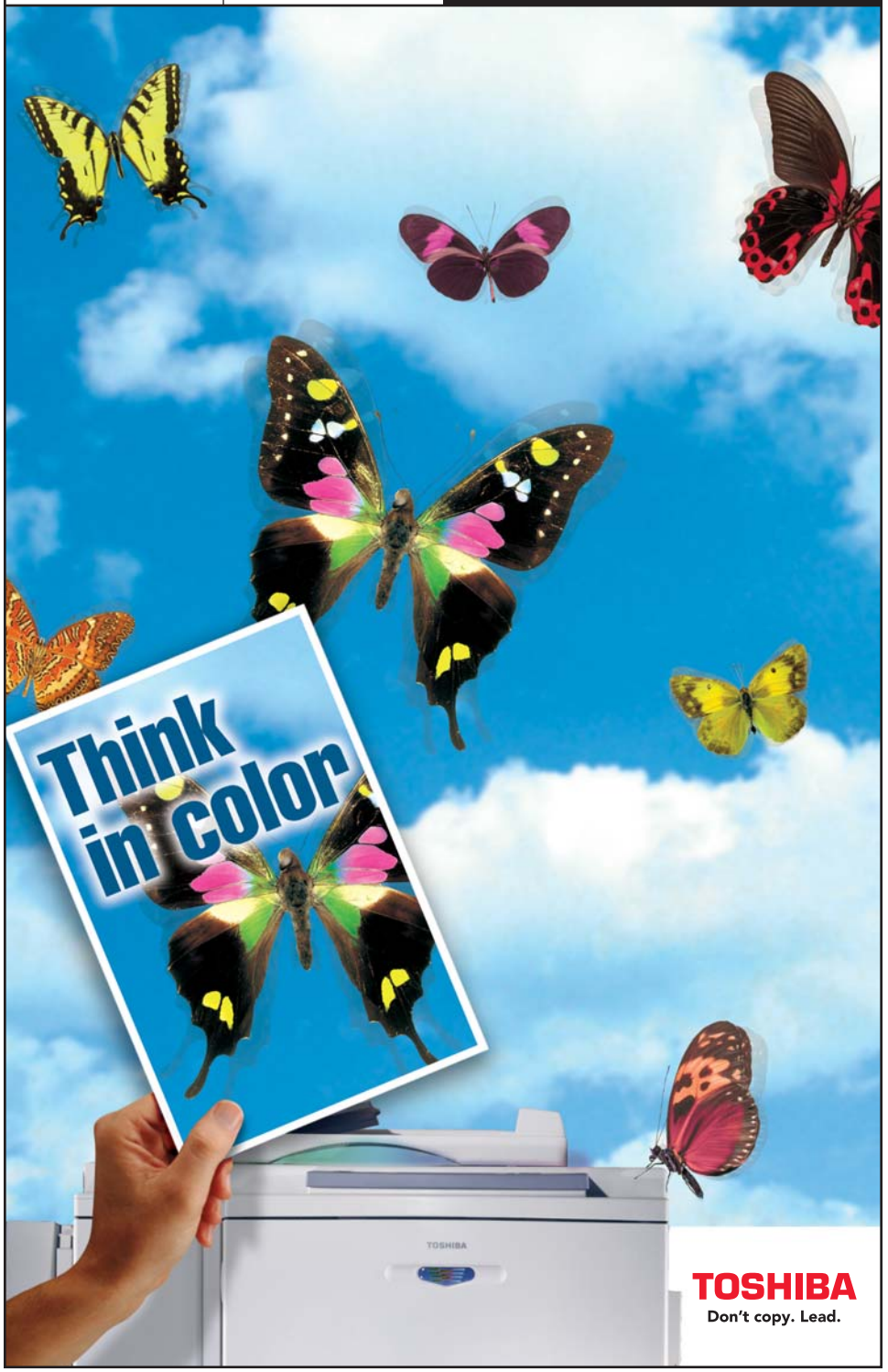


TABLE OF CONTENTS

Toshiba's Fully-Integrated, Full-Color Imaging Solution 1
DCIT (Dual Compression Imaging Technology) 2
Toshiba Designed, Engineered, Manufactured 2
Maximum Office Productivity and Versatility 3
Superior Paper Handling 5
Connected Color Copier and Printer 6
Fiery® Z5 External Controller (GA1130) 7
Fiery® X3e+ Embedded Controller (GA1120) 7
Excellent Image Quality with Toshiba's Patented Imaging Technologies 8
e-STUDIO210c What's New and Different 12
e-STUDIO310c What's New and Different 13
Key Features & Benefits 14
Competitive Summary and Analysis 16
e-STUDIO210c vs. Canon imageRUNNER C2050 16
e-STUDIO210c vs. Minolta CF9001/Konica 7832 18
e-STUDIO210c vs. Minolta CF1501/Konica 7915 20
e-STUDIO210c vs. Minolta CF2001/Konica 7920 22
e-STUDIO210c vs. Ricoh Aficio 6513 24
e-STUDIO210c vs. Sharp AR-C160 26
e-STUDIO310c vs. Canon CLC1150 28
e-STUDIO310c vs. Canon CLC2400 30
e-STUDIO310c vs. Sharp AR-C250 32
e-STUDIO310c vs. Xerox Docucolor 12 34
System Configuration 36
Connectivity Configurations 37
Hardware Specifications 38
Configuration Worksheet 41

TOSHIBA'S FULLY-INTEGRATED, FULL-COLOR IMAGING SOLUTION

Toshiba's breakthrough color imaging technology has once again revolutionized the color digital copier industry with the introduction of the e-STUDIO210c/310c. This complete high-speed business color solution offers an impressive 21/31 Full Color Copies/Prints Per Minute, EFI Fiery® Controller Connectivity, Saddle-Stitch Finishing, Hole Punch, and Standard Electronic Sort Capabilities.

These affordable color systems are ideal for high volume Office Environments, Print-For-Pay Facilities, and Professional Graphics Departments that require a standalone or network-connectable copier, printer, and scanner.

High output speed, industry-leading image quality, and superior paper handling, combined with complete network printing and scanning capabilities, make the e-STUDIO210c/310c an outstanding, all-purpose office productivity tool.

Toshiba achieves this amazing productivity at such a small price by using Toshiba color printing technology, "Toshiba's Color Inline Printing System". This innovative color printing system is a combination of state-of-the-art technology that gives the e-STUDIO310c beautiful 31 CPM 9,600 x 600 dpi copies with a first copy out time (FCOT) of only 9.5 seconds.

The e-STUDIO310c is the replacement model for the FC22i and offers faster speed, higher resolution, faster FCOT, lower cost per copy, better image quality, and superior paper handling features.

DCIT
(Dual Compression Imaging Technology)

The e-STUDIO210c/310c incorporates Toshiba's propriety DCIT (Dual Compression Imaging Technology) that compresses scanned color images in two stages and significantly increases color data processing speed. This provides true Scan Once/Print Many capability and results in faster scanning and copying, less noise, and reduced energy consumption. The e-STUDIO210c/310c is the only color copier in the market with this advanced memory copy capability.

Toshiba's innovative DCIT gives the e-STUDIO210c/310c the added convenience of Standard Electronic Sorting of multiple set copy jobs without a sorter. This eliminates the need for a mechanical sorter and overcomes the job output limitations of conventional sorters. DCIT's efficient memory management also allows for rotation of a color page in memory. Combined with Electronic Sorting, this allows the e-STUDIO310c to utilize advanced finishing features on copy jobs such as Saddle-Stitch and 2-in-1 printing.

The e-STUDIO310c uses Toshiba's innovative Scan Once/Print Many technology and a Four Beam Laser Unit to create 4 separate laser beams that fire simultaneously onto all 4 drums through a single laser unit with one polygon mirror. No other manufacturer has this breakthrough color copier technology. For most color copiers it is necessary to scan a color original 4 times, once for each of the 4 colors "CMYK." The e-STUDIO310c only needs to scan a color original once and is able to produce all 4-color separations. a fast FCOT of only 9.5 seconds is very important in the general office because an employee should be back at their desk being productive and not standing in front of a copier. Obviously employees are more productive back at their desk instead of in front of a copier.

Another reason that Toshiba's e-STUDIO310c is one of the world's smallest 31 CPM, 31 PPM color copier is its 4-beam laser unit design. Other color copiers that have a 4-drum design also have 4 separate laser and polygon mirror units, one unit for each of the four OPC drums. The e-STUDIO310c uses a 4-beam laser from a single laser unit and single polygon mirror to simultaneously print information on all 4 drums. This increases image stability and also contributes to smaller unit dimensions, lower power consumption and reduced operational noise.

TOSHIBA DESIGNED, ENGINEERED, MANUFACTURED

Toshiba's Advanced Color Inline Printing Technologies

- Scan Once/Print Many
- Four Beam Laser Unit
- Single Pass
- Four Drum Tandem Design

User-Friendly Interface Features

Easy to see LCD display with High contrast coloring (dark panel, white character)

The e-STUDIO210C/310c's user-friendly Touch Screen Panel provides streamlined copier controls and gives the system a sleek, clean, and uncluttered appearance. The intuitively designed control panel is efficiently configured and works in the same way as Toshiba's easy-to-use monochrome copier models.

Toshiba's Single Pass Four Drum Tandem Design system is the key to the e-STUDIO310c's high-speed copying capability of 31 Full-Color Copies Per Minute and 31 Full-Color Prints Per Minute. Most color copiers have a single drum or transfer belt and must shuffle the 4 development units in and out to produce a color copy. The e-STUDIO310c's inline 4 drum tandem design allows paper to make but a single pass. No shuffling in or out of development units. This is the key reason why we can print color copies at the same speed as black and white and, because of a single pass design, we can support a variety of media types like 140 Lbs. Index easier and faster.

The e-STUDIO210C/310c's straight paper not only reduces the time to print but also virtually eliminates paper jams that are common with the typical 4 pass transfer based systems. This Toshiba propriety technology also features an incredibly small drum size for reduced copier dimensions.

Auto Color

A convenient time and money saving feature is the Auto Color Selection mode. This efficient function automatically detects whether original documents are in color or black and white. If the document is black and white the system defaults to monochrome mode that produces darker blacks and saves on toner consumption.

One Touch Color Adjustment

The One Touch Color Adjustment allows you to quickly and easily make adjustments to your color documents. This is an important feature because color is very subjective in nature and what looks good to you may not look good to someone else.

A user with very little or no knowledge of color theory can make one of four adjustments to obtain their desired output. They can select Warm (red hot) to add red, Cool (cool, cool water) to add blue, Vivid to add more saturation or more color or, Clear to sharpen their image.

Mono Color

Color and color reproduction is a science. For individuals with a higher level of color expertise, the e-STUDIO210C/310c will allow them to dial in whatever adjustment they

require to produce the desired output with CMYK, RGB and Balance Wheel adjustments. The e-STUDIO210C/310c also has the unique ability to allow the less sophisticated "novice" user to easily adjust the e-STUDIO210C/310c to produce the desired output because of features like Mono Color and a One Touch Color Adjustment.

The convenient Mono Color Copying mode allows you to easily change the color of your original to one of 10 preset colors. This feature seems to be used most often to print invitations on special paper through the bypass or to add emphasis to a report or presentation.

Transport Belt Drop

If the e-STUDIO210C/310c is placed in an environment where a lot of black copies are made, it can be programmed to drop the transport belt when copying black originals.

This will reduce the CPC by extending the life of the color development units, developer and drum.

With features like Auto Color and the Transport Belt Drop you can utilize the e-STUDIO210C/310c in an office environment not only as a full color copier, but also as a black and white copier.

Regardless if the original is color or black and white the e-STUDIO210C/310c's copy will be hardly distinguishable from the original.

Fast and Easy Maintenance

Serviceability has never been simpler with the e-STUDIO210C/310c's newly developed replaceable Service Modules that greatly enhance copier reliability. These easily accessible modules allow periodic preventative maintenance to be performed

in less than 60 minutes, keeping copier downtime to a minimum. This includes off the glass calibration of the machine and the Fiery®. The modules are simply replaced and taken back to the dealership to be rebuilt.

The Electro Photographic Unit (EPU) contains the drum and developer. The monthly duty cycle is 60,000 copies for the of the e-STUDIO310c and 40,000 copies for the e-STUDIO210c. At this time the developer and fuser oil roller is changed. The e-STUDIO210C/310c also has an automatic developer-changing system that further simplifies this procedure. The automatic developer-changing unit automatically pumps the old developer into the waste toner bottle and adds the new developer. The technician simply inputs a code on the e-STUDIO210C/310c control panel and lets the machine do all the work.

Superior Paper Handling

The Toshiba e-STUDIO210C/310c is designed for the most demanding high volume print-for-pay, graphics departments, and busy office environments. It features a substantial 4,030 Sheet Paper Input Capacity that can accommodate a range of paper weights up to 140 Lbs. Index.

The e-STUDIO310c comes standard with (2) 600-sheet cassettes. Since many color copies are now created on film transparencies, the e-STUDIO310c features OHP Film Feeding from a standard cassette, as well as the bypass tray. More and more office presentations are given with applications like PowerPoint. These slides are in color and presenters usually like to print the presentation out for their audience's reference, as well as have a copy on OHP for back up, just in case there is a problem with the laptop or projector. The e-STUDIO210C/310c can print these slides in brilliant color on paper and transparencies. Toshiba has developed an original color toner containing wax (lubricant) that requires less oil for fusing. This is a convenient feature when using OHP or other types of transparency film because it eliminates the oily mess or glossy sheen produced by conventional fusing systems.

An optional Automatic Duplex Unit helps economize paper by allowing you to create two-sided copies and an optional Reversing Automatic Document Feeder (RADF) automatically inverts two-sided originals for copying in duplex formats.

A 1,500-Sheet Large Capacity Feeder gives you the ability to handle extremely long paper runs. The e-STUDIO210C/310c also has a 130-Sheet Stack Feed "Smart" Bypass that can accommodate a variety of paper sizes and weights.

Adding an optional 4 position stapling Saddle-Stitch Finisher can increase office productivity.

2 OPTIONAL FINISHERS, HOLE PUNCH, SADDLE-STITCH
50-SHEET RADF PAPER CAPACITY
4,030 TOTAL INPUT PAPER CAPACITY
A 1,500-SHEET LARGE CAPACITY FEEDER
AUTOMATIC DUPLEX UNIT
2 OPTIONAL 600-SHEET INPUT CASSETTES

Toshiba's Modular Accessories Concept

Toshiba's Modular Accessories concept allows you to tailor the e-STUDIO210C/310c with the options necessary to meet your specific document processing needs. The e-STUDIO210C/310c also makes your office life easier by giving you the capability of sharing some interchangeable accessories with other Toshiba copiers (See above diagram).

11 x 17 Full Bleed

Printing a copy to the edge of the final printed page requires creating a bleed. A bleed extends objects off the print area to insure that when the printed paper is trimmed during the finishing process, the ink coverage extends to the edge of the paper. The e-STUDIO210C/310c will be one of the few color copiers/printers that will be able to produce an 11" x 17" full bleed with zero image loss. This can be accomplished by copying an 11" x 17" original on a 12" x 18"size page.

11" x 17" full bleed color copying and printing is a very important feature in the graphics market because, during the proofing process, the graphic artist needs to be sure that his proof, produced by the e-STUDIO210C/310c, can insure the final piece will meet his requirements.

CONNECTED COLOR COPIER AND PRINTER

Positioned as a color printer that can also make full-color copies

Two Fiery® Connectivity Options

Supports EFI's Fiery® line of color servers, providing printing, scanning, IPP printing, scan-to-email, email print and robust network capabilities

Network Connected Color Copier and Printer

The multifunction e-STUDIO210C/310c Digital Copier is a complete color solution that functions as a fully connected color network printer that produces 21/31 full-color prints per minute. The advanced technological features incorporated into the e-STUDIO210C/310c are engineered to support Toshiba's dual controller strategy utilizing the Fiery® line of servers.

The Electronics For Imaging (EFI) Fiery® controller enables network connectivity for the e-STUDIO210C/310c, transforming the copier into a robust 21/31 PPM color network printer. The powerful external Fiery® Z5 controller offers unprecedented price/performance and uses Adobe PostScript™ 3, providing added quality to the Fiery® solution with smooth shading, support for 136 fonts, and integration with Adobe PDF.

FIERY® Z5 EXTERNAL CONTROLLER (GA1130)

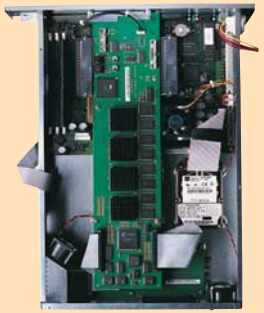
For dependable performance and color quality, count on the Fiery® Z5™. This Fiery® server delivers terrific value to a variety of print environments, from corporate departments and print-for-pay shops to graphic arts studios:

- Professional color quality
- Seamless network connectivity
- Productivity-enhancing workflow tools
- Expanded document imposition features
- Flexible and open variable data support
- Expedient Internet printing and management via email
- Convenient network access

Fiery® servers from EFI® deliver the power to perform your most demanding color print jobs with speed, ease, and precision. The Fiery® Z5 provides fast, dependable output and great value in diverse print environments. It is a high-performance color server that brings professional-level color and performance. Fiery® System 5 software takes EFI's new Fiery® Z5 servers to the next level, with the latest EFI innovations that make it easy to create, print, scan, and manage high-quality images. Fiery® System 5 includes enhanced variable data printing capabilities and applications for color management, networking, scanning, and remote job management.

FIERY® X3E+ EMBEDDED CONTROLLER (GA1120)

Whether you're printing corporate presentations, high-resolution graphic images or color intensive reports, the Fiery® X3e+ delivers the highest-quality color output of any entry-level embedded solution. The Fiery® X3e+'s performance, color, and control make short-run digital color printing easy. Fiery® System 5 software takes EFI's new Fiery® Z5 servers to the next level, with the latest EFI innovations that make it easy to create, print, scan, and manage high-quality images. Fiery® System 5 includes enhanced variable data printing capabilities, and applications for color management, networking, scanning, and remote job management. For business professionals who want their short-run color documents to come alive with brilliant Fiery® color, the Fiery® X3e+ makes an excellent entry-level solution.



Both of the Fiery® controller options support network printing and scanning capabilities and contain Fiery®'s powerful suite of utilities including Command Workstation™, ColorWise™ and WebTools™.

EFI ColorWise™

EFI's color management software adds flexibility and features that help you achieve the highest quality color possible on your output devices and accurately simulate the output of other color devices. Designed for extensibility, ColorWise™ allows you to add custom and future color profiles.

Variable Data Printing Solutions

The Fiery® Z5 provides a strong platform for variable data printing. Choose any authoring tool and create master templates and variable information with EFI's flexible and open, end-to-end variable data solution. EFI's solution is compatible with an array of current and emerging VDP languages, including Fiery® FreeForm™, Fiery® FreeForm 2, PPML, and Creo's VPS. EFI also offers two front-end applications, PrintShop Mail-Fiery® Version and Persona-Fiery® Version, to cover the complete variable data production workflow.

Fiery® Scan™—Scan-to-Email, Scan-to-Queue, Scan-to-Mailbox

Fiery® Scan incorporates the Fiery® controller as a key element of network and distribution scanning. Scans can be initiated remotely or at the copier, and stored on the Fiery®'s hard drive. The user can then distribute the scans via email to any email account around the world, download the file directly to the Fiery® Hold Queue to build documents, or save the scanned file directly to the PC. Scans can also be retrieved via the Fiery® WebTools™ utility, local Fiery® interface, or TWAIN plug-in.

Fiery® WebTools™

Administer your Fiery® server and print jobs through any Java-enabled browser, such as Microsoft Internet Explorer or Netscape Communicator, by using Fiery® WebTools™. With Fiery® WebTools™, you can view the current status of jobs, manage jobs with Fiery® WebSpooler, and install print drivers and utilities from workstations, among other activities.

Fiery® NetWise™

Accelerate setup and achieve seamless connectivity on all popular network environments with Fiery® NetWise. To the standard Ethernet connection and optional Token Ring connection, Fiery® NetWise adds Web connectivity for printing via the Internet. NetWise also offers the ability to perform many administrative tasks through email, such as submitting jobs to different Fiery® servers, canceling them, and sending scanned images to remote locations.

Fiery® DocBuilder™ Pro

The Fiery® DocBuilder™ Pro application lets you edit and assemble entire documents before RIPping the files. It is the industry's first server-based imposition application based on Adobe® System's Portable Document Format (PDF). The improvements in DocBuilder™ Pro include increased page layout accuracy and support for mixed page sizes, late editing, and enhanced templates.

Command Workstation™

The Command WorkStation™ is designed to make centralized print job management easy. It now automatically identifies Fiery® servers on your network, and offers new customization options so you can choose the most efficient way to display information about connected Fiery® servers. It sets the standard for conveniently managing and manipulating digital print jobs.

Excellent Image Quality with Toshiba's Patented Imaging Technologies

- 9,600 x 600 dpi Marking Engine
- 256 Gradations Per Pixel
- Automatic Image Quality Control Circuit
- Automatic Registration
- Advanced Image Enhancement Mode
- 10 bit (1024) Color Scanner
- Screen Enhancement Technology

10-Bit Color Scanner

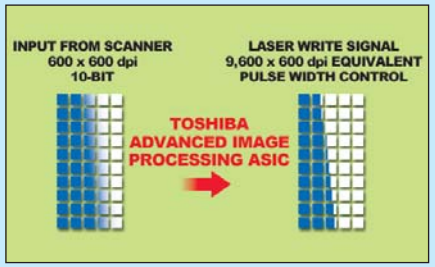
- Delivers high-quality copies with accurate differentiation and vivid reproduction of dark colors

The e-STUDIO210c/310c scans color documents with a 600 dpi, 10-bit color scanner that produces 1,024 gradations per pixel. This is in contrast to 8-bit color scanners which can read 256 gradations. This exceptional scanning resolution assures clear, high-quality copies with accurately reproduced colors. Although conventional scanners have difficulty in distinguishing black from other dark colors, the 10-bit scanner is especially adept at identifying dark colors including black, dark blue and purple, thus faithfully reproducing subtle nuances of the original.

9,600 x 600 dpi

- Accurately reproduces halftones and fonts from virtually any type of original

Toshiba's patented imaging technology innovatively transforms these scanned images into finer and smoother 9,600 x 600 dpi reproductions, one of the highest print resolutions in the industry. During the actual printing process, the e-STUDIO210c/310c changes the laser beam lighting period and



pixel positioning making it possible to precisely print dots in a very fine width of one sixteenth of a 600 dpi pixel. The e-STUDIO210c/310c's Scalable Smoothing Technology can also control the line width of text to maintain superb image quality and assure razor sharp text.

Screen Enhancement Technology

- True to life reproduction of light colors

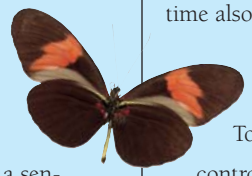
The e-STUDIO210C/310c utilizes Toshiba's Screen Enhancement Technology to increase the image density of the original document by accurately reproducing lighter colors.

With conventional color copiers it is extremely difficult to accurately reproduce light colors such as light blue and gray, resulting in noticeable copy quality deterioration. To faithfully reproduce these light colors, extremely fine pixels must be precisely controlled. The Toshiba's Screen Enhancement Technology gathers up multiple pixels that are located close to each other and concentrates them in a single area. As a result, small pixels become one larger dot, thus maintaining the image density of the original in a specific area.

Consistent Color—Automatic Registration Control

- The e-STUDIO210C/310c's automatic registration feature ensures consistent, high-quality color images with automatic laser timing adjustments

When four separate drums are used, even a slight dislocation of any one of the drums can result in a shifted print position. To solve this problem, the e-STUDIO210C/310c incorporates an automatic registration function. This function detects dislocation with a sensor. The print position is then automatically adjusted so that the four-color toners are all properly positioned. "V" marks (registration marks) are provided for each of the four colors on the transport belt. The automatic registration adjustment takes place regularly during warm-up or when the machine is not copying by writing print position information and detecting any differences from the "V" marks.



Automatic Quality Control

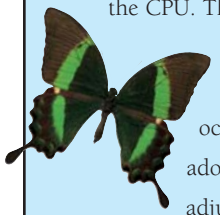
- Reduces the need for time-consuming and expensive service calls for color calibration
- Continues to produce consistent color from the first copy to the last

Toshiba incorporates proprietary Image Quality Control techniques to assure the highest possible image reproduction. This minimizes color fading and reduces copy discoloration over time and also results in consistently high-resolution copies and fewer color calibration calls.

Conventional color copiers sometimes experience color fading when multiple copies are made of a single original document (including digital data). Discoloration also occurs over time, which in turn requires service calls for color calibration. Copiers should be able to assure delivery of the highest possible image quality. Achieving consistently high-resolution copying over time also serves as the key to determining the quality of the product. The e-STUDIO210C/310c utilizes a Toshiba proprietary image quality control technique employing a CPU to control image-processing conditions. Each sensor measures high and low image density on the transfer belt and the CPU compares these measured values against a standard

gamma curve. When the measured values deviate from the standard curve, the CPU automatically corrects the differences by changing image-processing conditions, thus maintaining optimal image quality.

Changes in the unit's internal temperature (contrast volt) and humidity (background volt) parameters, which can adversely affect image quality, are also detected and fed to the CPU. The CPU is also equipped with a learning function. If the same phenomena occur repeatedly, the CPU adopts previously used adjustment methods, thus reducing the time required to achieve optimal image processing conditions.



Toshiba Patented Color Toner—Less Fusing Oil

- Delivers clean, stain-free images
- Produces magnificent vibrant output on normal paper

Generally, color copiers use large amounts of oil for fusing. The large tank that stores the oil, however, increases the dimensions of the copier and can cause stains due to oil leakage. Toshiba has developed an original color toner containing wax (lubricant) that requires less oil for fusing. As a result, the e-STUDIO210C/310c eliminates the need for an oil tank and, instead, employs a new oil roller coated with a minimum of oil. This mechanism also practically eliminates oil stained images, assuring clear color copying. It is also a convenient feature when using OHP or other types of transparency film.

Image Modes

- Ensures premium image quality regardless of original type
- AI: Automatically evaluates and optimizes image quality regardless of original type

To ensure optimum image quality, users can program the e-STUDIO210C/310c to utilize the most appropriate mode for the type of original to be copied. The available Image Type Modes are:

- Text/Photo—For copying original documents that contain both text and photographic images
- Text—For copying original documents that contain text or line art images
- Photo—For copying photographic images. High Quality Halftone Processing reproduces photographs in rich beautiful colors
- Printed Image—For copying halftone screened printed images, typically found in magazines, calendars, newspapers or demonstration originals
- Map—For copying maps or documents containing text on top of color backgrounds. The Map Mode imaging function recreates sharp fine lines and small document text
- AI—The e-STUDIO210C/310c's Automatic Image Enhancement Mode allows for advanced macro page discrimination, ensuring the utmost image quality for originals with text and photographic image areas. Advanced Image Enhancement Mode automatically distinguishes between text, graphics, and line art on the same page. This enables the e-STUDIO210C/310c to accurately recreate documents with magnificent clarity and vibrant colors.

e-STUDIO210c WHAT'S NEW AND DIFFERENT

The e-STUDIO210c replaces Toshiba's highly successful FC15i Digital Color Multifunction Device. Compared with its predecessor, this system offers faster copy and print speed, standard Electronic Sorting for copy collation, optional Saddle-Stitch finishing, faster warm up time and first copy out time, and longer duty cycle. The chart below provides a specification comparison between the e-STUDIO210c and the FC15i.

BRAND MODEL	TOSHIBA e-STUDIO210c	TOSHIBA FC15I
CPM (COLOR/B&W)	21/31	15/22
PPM (COLOR/B&W)	21/31	18/25
COPY RESOLUTION	9,600 x 600 dpi	9,600 x 600 dpi
MAXIMUM MONTHLY COPY VOLUME	40,000	20,000
FIRST COPY OUT TIME	9.5 Sec.	10.3 Sec.
WARM-UP TIME	4 Min.	9 Min.
SCAN	Yes, with Optional Controller	Yes, with Optional Controller
DOCUMENT FEEDER	Optional RADF	Optional RADF
DOC FEEDER CAPACITY	50 Sheets	50 Sheets
STANDARD PAPER CAPACITY W/SFB	1,330	1,250
STANDARD PAPER SOURCES W/SFB	3	3
MAXIMUM PAPER CAPACITY	4,030	3,950
MINIMUM/MAXIMUM PAPER SIZE	5.5" x 8.5"/12" x 18"	5.5" x 8.5"/12" x 18"
DUPLEX	Optional	Optional
ZOOM MAGNIFICATION	25–400% (1% Increments)	25–400% (1% Increments)
SORTER/FINISHER	Standard Electronic Sort/ Optional Saddle-Stitch Finisher Optional Multi-Position Finisher	Optional 20-Bin Stapling Sorter
HOLE PUNCH	Optional	No
APS/AMS	Yes/Yes	Yes/Yes
AUTO TRAY SELECTION	Yes	Yes
BYPASS	130 Sheets	50 Sheets
QUANTITY SELECTOR	1–999	1–999
AUTO EXPOSURE	Yes	Yes
JOB INTERRUPT	Yes	Yes
SHEET INSERTION	Yes	Yes
JOB RESERVATION	Yes	Yes
2-IN-1, 4-IN-1 (Duplex)	Yes	Yes
NETWORK PRINT	Yes	Yes
PRINT RESOLUTION	600 x 600 dpi	600 x 600 dpi
PRINT MEMORY	X3e+: 128 MB (up to 256 MB); 10 GB HDD Z5: 256 MB (up to 512 MB); 40 GB HDD	X3e: 128 MB (up to 256 MB); 6 GB HDD Z4: 192 MB (up to 512 MB); 8.4 GB HDD
PDL SUPPORT	X3e+: PostScript™ 3 Z5: PostScript™ 3	X3e: PostScript™ 3 Z4: PostScript™ 3
NETWORK OPERATING SYSTEMS SUPPORT	X3e+: Windows® 9x, Me, 2000, XP, Windows® NT 4.0, NetWare®, Macintosh® OS 8.6+ Z5: Windows® 9x, Me, 2000, XP, Windows® NT 4.0, NetWare®, Macintosh® OS 8.6+	X3e: Windows® 9x, 2000, Windows® NT 4.0, NetWare®, Macintosh® OS 8.x+ Z4: Windows® 9x, 2000, Windows® NT 4.0, NetWare®, Macintosh® OS 8.x+
PROTOCOL SUPPORT	X3e+ and Z5: IPX/SPX, TCP/IP, AppleTalk®, SNMP, NDS	X3e and Z4: IPX/SPX, TCP/IP, AppleTalk®, SNMP, NDS
I/O INTERFACES	X3e+: 10/100BaseT Z5: 10/100BaseT, Optional Token Ring	X3e: 10/100BaseT Z4: 10/100BaseT, Optional Token Ring
TONER	Cartridge	Cartridge
COLOR TONER YIELD (C, M, Y)	10,700 @ 6%	9,500 @ 6%
BLACK TONER YIELD	20,600 @ 6%	9,500 @ 6%
PHOTOCONDUCTOR	Organic Drum	Organic Drum
PHOTOCONDUCTOR YIELD	40,000	20,000
DIMENSIONS—INCHES (H x W x D)	39.4" x 33.3" x 29.6"	39.4" x 33.3" x 29.6"
WEIGHT	421 Lbs.	421 Lbs.
PM SCHEDULE	40,000	30,000

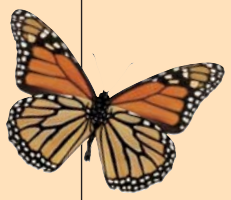
e-STUDIO310c WHAT'S NEW AND DIFFERENT

The e-STUDIO310c replaces Toshiba's highly successful FC22i Digital Color Multifunction Device. Much like the e-STUDIO210c, compared with its predecessor, this system offers faster copy and print speed, standard Electronic Sorting for copy collation, optional Saddle-Stitch finishing, faster warm up time and first copy out time, and longer duty cycle. The chart below provides a specification comparison between the e-STUDIO310c and the FC22i.

BRAND MODEL	TOSHIBA e-STUDIO310c	TOSHIBA FC22I
CPM (COLOR/B&W)	31/31	22/22
PPM (COLOR/B&W)	31/31	25/25
COPY RESOLUTION	9,600 x 600 dpi	9,600 x 600 dpi
MAXIMUM MONTHLY COPY VOLUME	60,000	40,000
FIRST COPY OUT TIME	9.5 Sec.	10.3 Sec.
WARM-UP TIME	4 Min.	9 Min.
SCAN	Yes, with Optional Controller	Yes, with Optional Controller
DOCUMENT FEEDER	Optional RADF	Optional RADF
DOC FEEDER CAPACITY	50 Sheets	50 Sheets
STANDARD PAPER CAPACITY W/SFB	1,330	1,250
STANDARD PAPER SOURCES W/SFB	3	3
MAXIMUM PAPER CAPACITY	4,030	3,950
MINIMUM/MAXIMUM PAPER SIZE	5.5" x 8.5"/12" x 18"	5.5" x 8.5"/12" x 18"
DUPLEX	Optional	Optional
ZOOM MAGNIFICATION	25–400% (1% Increments)	25–400% (1% Increments)
SORTER/FINISHER	Standard Electronic Sort/ Optional Saddle-Stitch Finisher Optional Multi-Position Finisher	Optional 20-Bin Stapling Sorter
HOLE PUNCH	Optional	No
APS/AMS	Yes/Yes	Yes/Yes
AUTO TRAY SELECTION	Yes	Yes
BYPASS	130 Sheets	50 Sheets
QUANTITY SELECTOR	1–999	1–999
AUTO EXPOSURE	Yes	Yes
JOB INTERRUPT	Yes	Yes
SHEET INSERTION	Yes	Yes
JOB RESERVATION	Yes	Yes
2-IN-1, 4-IN-1 (Duplex)	Yes	Yes
NETWORK PRINT	Yes	Yes
PRINT RESOLUTION	600 x 600 dpi	600 x 600 dpi
PRINT MEMORY	X3e+: 128 MB (up to 256 MB); 10 GB HDD Z5: 256 MB (up to 512 MB); 40 GB HDD	X3e: 128 MB (up to 256 MB); 6 GB HDD Z4: 192 MB (up to 512 MB); 8.4 GB HDD
PDL SUPPORT	X3e+: PostScript™ 3 Z5: PostScript™ 3	X3e: PostScript™ 3 Z4: PostScript™ 3
NETWORK OPERATING SYSTEMS SUPPORT	X3e+: Windows® 9x, Me, 2000, XP, Windows® NT 4.0, NetWare®, Macintosh® OS 8.6+ Z5: Windows® 9x, Me, 2000, XP, Windows® NT 4.0, NetWare®, Macintosh® OS 8.6+	X3e: Windows® 9x, 2000, Windows® NT 4.0, NetWare®, Macintosh® OS 8.x+ Z4: Windows® 9x, 2000, Windows® NT 4.0, NetWare®, Macintosh® OS 8.x+
PROTOCOL SUPPORT	X3e+ and Z5: IPX/SPX, TCP/IP, AppleTalk®, SNMP, NDS	X3e and Z4: IPX/SPX, TCP/IP, AppleTalk®, SNMP, NDS
I/O INTERFACES	X3e+: 10/100BaseT Z5: 10/100BaseT, Optional Token Ring	X3e: 10/100BaseT Z4: 10/100BaseT, Optional Token Ring
TONER	Cartridge	Cartridge
COLOR TONER YIELD (C, M, Y)	10,700 @ 6%	9,500 @ 6%
BLACK TONER YIELD	20,600 @ 6%	9,500 @ 6%
PHOTOCONDUCTOR	Organic Drum	Organic Drum
PHOTOCONDUCTOR YIELD	60,000	30,000
DIMENSIONS—INCHES (H x W x D)	39.4" x 33.3" x 29.6"	39.4" x 33.3" x 29.6"
WEIGHT	421 Lbs.	421 Lbs.
PM SCHEDULE	60,000	40,000

COPY FEATURES	FUNCTION	BENEFIT
Three-in-One Functionality	Offers digital copying, network printing and scan-to-email, mailbox and Hold Queue. Users learn one single device as opposed to learning three different machines.	Lower Total Cost of Ownership (TCO) when compared to purchasing a separate color copier, printer, and scanner. Productivity is enhanced when users quickly learn one device for all functionality.
9,600 x 600 dpi Resolution (with Scalable Smoothing)	Original images are digitized at 600 dpi, and reproduced at 9,600 x 600 dpi thanks to Toshiba's Advanced Image Processing ASIC. Reproduces originals that vary in shading or contrast with 256 gradations, increasing gray scale recognition and printing compatibility.	The high image quality of the e-STUDIO210c/310c ensures more precise reproduction of photos, halftones, complex charts, and presentations.
Advanced Document Handling and Finishing	Provides increased paper capacity and multiple standard paper sources, advanced finishing, and essential functional business needs.	The e-STUDIO210c/310c is versatile and grows with the requirements of a changing business environment.
Automatic Duplexing	Automatically produces two-sided copies quickly and easily.	Saves time by providing two-side copies at fast speeds. Used in several copy modes, including magazine sort.
Dual Page Copying	The facing pages of a book or magazine are copied onto two separate sheets of paper.	Saves time by scanning both pages in one single pass, and users do not need to move or reset the original document on the glass.
Editing	The e-STUDIO210c/310c digital copying functions include Mirror Imaging and Negative/Positive Reversal	Users save time by making mirror image copies or reversing the black and white areas on the original document directly at the copier.
Fast Warm-up Time	The e-STUDIO210c/310c has one of the fastest warm-up times in it's class. Warm up time is a short 4 minutes as opposed to 8 minutes for most other color copiers.	The fast warm-up time saves users time at the copier, and thereby increasing productivity and efficiency and reducing costs.
Image Shift	Users can move images from the left or right-hand margin 0 mm to 30 mm to compensate for hole punching or binding.	Ensures that images will not be cut off when producing a document for hole punching or binding.
Interrupt Mode	Temporarily interrupts the print job in progress to make a quick copy.	Reduces office contention by providing immediate access for simple copy jobs.
Job Reservation	Permits a copy job to be scanned and stored in the system's job queue.	The stored copy job starts automatically after the pervious copy job finishes. Since any kind of copy job can be stored using the Job Preset, this feature saves users waiting time.
Magazine Sort	Automatically copies originals in the correct magazine layout order. With the options Saddle-Stitch Finisher, producing finished magazines is simple.	Eliminates the cumbersome and manual process of creating booklets.

COPY FEATURES	FUNCTION	BENEFIT
Memory Copy	With 128 MB of Page Memory and a 20 GB HDD, the e-STUDIO210c/310c is able to handle large-volume, graphic-intensive documents. Up to 400 Ledger size images can be stored for one copy job.	The system can handle large jobs in one step, and provides users the ability to work with graphic intensive documents.
Photo/Text Mode	Automatically defaults to photo/text model to provide exceptional image quality with minimal user intervention.	Provides superior image quality regardless of the original type.
Scan Once Print Many/ Electronic Sort	Sets are automatically collated and sorted without the need of a mechanical sorter.	SOPM reduces wear and tear on the RADF. Saves time as users retrieve completed sets without having to wait for the entire job to finish.
Straight In-Line Paper Path	The advanced design of the e-STUDIO210c/310c offers a straight paper path for lower likelihood of paper jams.	The e-STUDIO210c/310c is highly reliable due to its lower likelihood of paper jams. This straight path design also results in a fast FCOT of 9.5 seconds.
Touch Screen Control Panel	Offers a touch screen panel with graphical icons that allow one touch operations, and the graphical service guidance system provides end-users with step-by-step instructions on clearing misfeeds, replacing toner, and removing used toner bags.	Increases operability and simplifies the use of the devices since nearly all of the features are accessed through the touch screen panel.
2-in-1, 4-in-1 (Combination Mode)	Copier images from multiple originals 2 or 4 up on a single page.	Several documents can be combined on a single page to maximize filing space or to prepare for presentations.
Hue/Saturation Adjustment	By utilizing the easy-to-use LCD touch screen, Hue and Saturation color levels can be adjusted and modified	For the more color savvy users, this provides easy to read color balance scales for CMYK adjustment of color levels, thus allowing users to obtain the desired color output.
RGB Color Adjustment	By utilizing the easy-to-use LCD touch screen, Red, Green and Blue color levels can be adjusted and modified.	For the general office users, this provides easy-to-read and use color balance scales for RGB color adjustment, thus allowing users to obtain the desired color output.
Monocolor Copy	Allows color copies to be made in a specific color that the user specifies	Copies can be made in one of ten specified colors to add special color affects to documents
One-Touch Adjustments	Allow color copies to be made in one of four effects—Warm, Cool, Vivid or Clear	The easy-to-use One-Touch effects can be used to brighten, soften or make colors more vibrant without the need for adjusting the individual color levels.



e-STUDIO210C vs. CANON imageRUNNER C2050

FEATURES	e-STUDIO210C	CANON imageRUNNER C2050
INTRODUCTION DATE	April 2002	February 2001
MSRP	$19,995	$19,275
COLOR CPM	21 CPM	21 CPM
COLOR PPM	21 PPM	21 PPM
B&W CMP	31 CPM	21 CPM
B&W PPM	31 PPM	21 PPM
IMAGING SYSTEM	Single Pass	Transfer Belt
IMAGE BASE	Laser	LED
SCAN RESOLUTION	600 x 600 dpi	600 x 600 dpi
OUTPUT RESOLUTION (COPY)	9,600 x 600 dpi	600 x 1,200 dpi
OUTPUT RESOLUTION (PRINT)	600 x 600 dpi	600 x 1,200 dpi (Enhanced)
MAXIMUM MONTHLY COPY VOLUME	40,000	40,000
FIRST COPY OUT TIME (COLOR/B&W)	9.5 Sec./9.5 Sec.	10.9 Sec./10.9 Sec.
WARM-UP TIME	4 Min.	4.5 Min.
DOC FEEDER CAPACITY	50 Sheets	50 Sheets
BYPASS	Standard 130 Sheets	Standard 50 Sheets
DUPLEX FEATURE	Optional	Standard Auto
STANDARD PAPER CAPACITY/SOURCES	1,330 Sheets/3	1,000 Sheets/2
MAXIMUM PAPER CAPACITY/SOURCES	4,030 Sheets/6	5,550 Sheets/6
PAPER WEIGHT	17–90 Lbs.	17–80 Lbs.
PAPER WEIGHT—BYPASS	Up to 140 Lbs.	17–80 Lbs. Cover
PAPER WEIGHT—LARGE CAPACITY FEEDER	17–90 Lbs.	15–28 Lbs.
MINIMUM/MAXIMUM PAPER SIZE	5.5" x 8.5"/12" x 18"	5.5" x 8.5"/12" x 18"
ZOOM MAGNIFICATION	25–400%	25–400%
ELECTRONIC SORT CAPABILITIES	Standard	Not Available
SADDLE-STITCH FINISHER	Optional	Optional
HOLE PUNCH	Optional	Not Available
APS/AMS	Yes/Yes	Yes/Yes
AUTO TRAY SELECTION	Yes	Yes
QUANTITY SELECTOR	1–999	1–999
ONE TOUCH COLOR MODES	Yes	Yes
BOOK COPYING	Standard	Standard
JOB INTERRUPT	Yes	Yes
PHOTO MODE	Yes	Yes
COLOR BALANCE ADJUSTMENT	Yes	Yes
SHARPNESS ADJUSTMENT	Yes	INA
MIRROR IMAGE	Yes	INA
OHP INTERLEAVING	Yes	Yes
JOB PROGRAMMING	8	INA
TONER	Cartridge	Cartridge
TONER YIELD	10,700@6% Each Color/ 20,600@6% Black	18,000 Black/20,000 Color @ 20% Coverage
DRUM YIELD	40,000	50,000
PM CYCLE	40,000	INA

CANON imageRUNNER C2050

Canon has expanded its line of color solutions with the introduction of the Canon imageRUNNER C2050. The imageRUNNER C2050 produces 600 x 1,200 dpi (interpolated) output at 21 PPM in both color and monochrome. The standard paper capacity is 1,050 sheets using two 500-sheet drawers and a 50-sheet bypass tray. Unlike other Canon color laser copier printers (which requires four passes), the iR C2050 utilizes a single pass mechanism, incorporating a transfer belt and a four in-line LED color process.

In terms of image quality (according to lab tests conducted by BERTL), the iR C2050 performed poorly in matching of green during copying and blue Pantone when printing. In addition, there was some horizontal banding on large areas of solid color, which may be a problem when printing presentations with background effects. However, the price point for the iR C2050 is well below Canon's CLC series. The CLC series is primarily targeted to the Graphic Arts/Print for Pay environment where image quality is the overriding requirement. The iR C2050 is targeted at the fast growing Corporate/General Office color market sectors.

Canon imageRUNNER C2050 Strengths

- Standard Auto Duplex
- Larger Maximum Paper Capacity
- Higher Print Image Resolution
- Higher Drum Yield

Canon imageRUNNER C2050 Weaknesses

- Slower Monochrome Output
- LED Image Base Technology
- Lower Copy Image Resolution
- Longer Warm-up Time
- Smaller Standard Paper Capacity
- Smaller Bypass Capacity
- Only up to 80 Lbs. Cover thru Bypass
- Only up to 28 Lbs. thru Feeder
- No Electronic Sort Capabilities
- No Hole Punch Option

e-STUDIO210C vs. MINOLTA CF9001/KONICA 7832

FEATURES	e-STUDIO210C	MINOLTA CF9001/KONICA 7832
INTRODUCTION DATE	April 2002	May 2001
MSRP	$19,995	$18,600
COLOR CPM	21 CPM	8 CPM
COLOR PPM	21 PPM	8 PPM
B&W CMP	31 CPM	32 CPM
B&W PPM	31 PPM	32 PPM
IMAGING SYSTEM	Single Pass	4 Pass, Transfer Drum
IMAGE BASE	Laser	Laser
SCAN RESOLUTION	600 x 600 dpi	600 x 600 dpi
OUTPUT RESOLUTION (COPY)	9,600 x 600 dpi	600 x 600 dpi
OUTPUT RESOLUTION (PRINT)	600 x 600 dpi	600 x 600 dpi
MAXIMUM MONTHLY COPY VOLUME	40,000	20,000
FIRST COPY OUT TIME (COLOR/B&W)	9.5 Sec./9.5 Sec.	22 Sec./10 Sec.
WARM-UP TIME	4 Min.	9 Min.
DOC FEEDER CAPACITY	50 Sheets	50 Sheets
BYPASS	Standard 130 Sheets	50 Sheets Standard
DUPLEX FEATURE	Optional	Optional
STANDARD PAPER CAPACITY/SOURCES	1,330 Sheets/3	1,250 Sheets/3
MAXIMUM PAPER CAPACITY/SOURCES	4,030 Sheets/6	2,340 Sheets/5
PAPER WEIGHT	17–90 Lbs.	16–24 Lbs.
PAPER WEIGHT—BYPASS	Up to 140 Lbs.	20–110 Lbs. Index
PAPER WEIGHT—LARGE CAPACITY FEEDER	17–90 Lbs.	13–29 Lbs.
MINIMUM/MAXIMUM PAPER SIZE	5.5" x 8.5"/12" x 18"	4" x 6"/12" x 18"
ZOOM MAGNIFICATION	25–400%	25–600%
ELECTRONIC SORT CAPABILITIES	Standard	Not Available
SADDLE-STITCH FINISHER	Optional	Not Available
HOLE PUNCH	Optional	Not Available
APS/AMS	Yes/Yes	Yes/Yes
AUTO TRAY SELECTION	Yes	Yes
QUANTITY SELECTOR	1–999	1–99
ONE TOUCH COLOR MODES	Yes	INA
BOOK COPYING	Standard	Standard
JOB INTERRUPT	Yes	Yes
PHOTO MODE	Yes	Yes
COLOR BALANCE ADJUSTMENT	Yes	Yes
SHARPNESS ADJUSTMENT	Yes	INA
MIRROR IMAGE	Yes	Yes
OHP INTERLEAVING	Yes	Yes
JOB PROGRAMMING	8	10
TONER	Cartridge	Cartridge
TONER YIELD	10,700@6% Each Color/ 20,600@6% Black	5,143 @ 35% Both Black and Color
DRUM YIELD	40,000	30,000
PM CYCLE	40,000	15,000/30,000

MINOLTA CF9001/KONICA 7832

The CF9001 is an evolution of Minolta's CF900 and offers improved price/performance to the graphic arts marketplace over its predecessor. The CF9001 produces color copies at 8 PPM and monochrome copies at 32 PPM (compared with the CF900's 6 PPM color and 24 PPM monochrome speed). The print resolution has been increased to 600 x 600 dpi from 400 x 400 dpi. In addition, the maximum weight of the paper (via bypass) also has been increased to 100 Lbs. from 90 Lbs. Minolta's Fine Edge Enhancement and other color technologies have been incorporated into the CF9001. The CF9001 is targeted specifically to the Graphic Arts and Design marketplace.

Minolta CF9001 Strengths

- Faster Monochrome Output
- Lower MSRP
- Wider Zoom Magnification Range
- Larger Standard Paper Supply
- More Job Memories

Minolta CF9001 Weaknesses

- Slower Full Color Output
- Lower Copy Image Resolution
- Lower Maximum Monthly Duty Cycle
- Smaller Maximum Paper Capacity
- Smaller Bypass Paper Capacity
- Longer FCOT of 22 Seconds in Color
- Longer Warm-up Time
- Only up to 110 Lbs. Index thru the Bypass
- Lower Quantity Selector
- Lower Drum Yield
- No Electronic Sort Capabilities
- No Saddle-Stitch Finisher Option
- No Hole Punch Option

e-STUDIO210C vs. MINOLTA CF1501/KONICA 7915

FEATURES	e-STUDIO210C	MINOLTA CF1501/KONICA7915
INTRODUCTION DATE	April 2002	February 2001
MSRP	$19,995	$13,995
COLOR CPM	21 CPM	15 CPM
COLOR PPM	21 PPM	15 PPM
B&W CMP	31 CPM	15 CPM
B&W PPM	31 PPM	15 PPM
IMAGING SYSTEM	Single Pass	Single Pass
IMAGE BASE	Laser	LED
SCAN RESOLUTION	600 x 600 dpi	600 x 600 dpi
OUTPUT RESOLUTION (COPY)	9,600 x 600 dpi	600 x 600 dpi
OUTPUT RESOLUTION (PRINT)	600 x 600 dpi	600 x 1,800 dpi (Enhanced)
MAXIMUM MONTHLY COPY VOLUME	40,000	20,000
FIRST COPY OUT TIME (COLOR/B&W)	9.5 Sec./9.5 Sec.	15 Sec./12 Sec.
WARM-UP TIME	4 Min.	Less Than 5 Min.
DOC FEEDER CAPACITY	50 Sheets	50 Sheets
BYPASS	Standard 130 Sheets	Single Sheet Manual
DUPLEX FEATURE	Optional	Optional
STANDARD PAPER CAPACITY/SOURCES	1,330 Sheets/3	750 Sheets
MAXIMUM PAPER CAPACITY/SOURCES	4,030 Sheets/6	3,250 Sheets
PAPER WEIGHT	17–90 Lbs.	20–90 Lbs.
PAPER WEIGHT—BYPASS	Up to 140 Lbs.	20–110 Lbs.
PAPER WEIGHT—LARGE CAPACITY FEEDER	17–90 Lbs.	16–24 Lbs.
MINIMUM/MAXIMUM PAPER SIZE	5.5" x 8.5"/12" x 18"	5.5" x 8.5"/12" x 18"
ZOOM MAGNIFICATION	25–400%	50–400%
ELECTRONIC SORT CAPABILITIES	Standard	Not Available
SADDLE-STITCH FINISHER	Optional	Not Available
HOLE PUNCH	Optional	Optional
APS/AMS	Yes/Yes	Yes/Yes
AUTO TRAY SELECTION	Yes	Yes
QUANTITY SELECTOR	1–999	1–99
ONE TOUCH COLOR MODES	Yes	Yes
BOOK COPYING	Standard	Standard
JOB INTERRUPT	Yes	Yes
PHOTO MODE	Yes	Yes
COLOR BALANCE ADJUSTMENT	Yes	Yes
SHARPNESS ADJUSTMENT	Yes	Yes
MIRROR IMAGE	Yes	Yes
OHP INTERLEAVING	Yes	Yes
JOB PROGRAMMING	8	10
TONER	Cartridge	Cartridge
TONER YIELD	10,700@6% Each Color/ 20,600@6% Black	10,000 @ 20% Coverage For Both Black and Color
DRUM YIELD	40,000	47,000/27,000
PM CYCLE	40,000	INA

MINOLTA CF1501/KONICA 7915

The Minolta CF1501 joins the emerging class of LED based technology, low-cost color copiers aimed at the general corporate office. The four in-line drum system offers high-speed color printing and allows the drum units to be replaced easily. The CF1501 produces color and monochrome copies at 15 PPM at 600 x 600 dpi image resolution and features Minolta image-quality enhancement technologies such as LIMOS III and Fine Edge Enhancement.

The CF1501 is designed to be easy-to-use and maintain, with features such as automatic color calibration, automatic exposure mode, and consumables that are easy to replace. On the other hand, the CF1501 falls short on its reliance upon sorter bins for copy collation, the lack of stapling capability on sorter unit, the lack of option to select a separate paper source for the first page of a printed document, and the lack of cascade option on the mailbox sorter.

Minolta CF1501 Strengths

- Low MSRP
- Higher Print Resolution
- More Job Memories

Minolta CF1501 Weaknesses

- LED Image Base Technology
- Slower Monochrome/Color Copy/ Print Output
- Lower Copy Image Resolution
- Longer FCOT both Monochrome and Color
- Longer Warm-up Time
- Smaller Standard and Maximum Paper Capacity
- Single Sheet Manual Bypass
- Only up to 110 Lbs. Index thru Bypass
- Lower Maximum Monthly Duty Cycle
- Less Quantity Selector
- No Electronic Sort Capabilities
- No Saddle-Stitch Finisher Option

e-STUDIO210C vs. MINOLTA CF2001/KONICA 7920

FEATURES	e-STUDIO210C	MINOLTA CF2001/KONICA 7920
INTRODUCTION DATE	April 2002	February 2001
MSRP	$19,995	$17,495
COLOR CPM	21 CPM	20 CPM
COLOR PPM	21 PPM	20 PPM
B&W CMP	31 CPM	20 CPM
B&W PPM	31 PPM	20 PPM
IMAGING SYSTEM	Single Pass	Single Pass
IMAGE BASE	Laser	LED
SCAN RESOLUTION	600 x 600 dpi	600 x 600 dpi
OUTPUT RESOLUTION (COPY)	9,600 x 600 dpi	600 x 600 dpi
OUTPUT RESOLUTION (PRINT)	600 x 600 dpi	600 x 1,800 dpi (Enhanced)
MAXIMUM MONTHLY COPY VOLUME	40,000	30,000
FIRST COPY OUT TIME (COLOR/B&W)	9.5 Sec./9.5 Sec.	15 Sec./12 Sec.
WARM-UP TIME	4 Min.	Less Than 5 Min.
DOC FEEDER CAPACITY	50 Sheets	50 Sheets
BYPASS	Standard 130 Sheets	Single Sheet Manual
DUPLEX FEATURE	Optional	Optional
STANDARD PAPER CAPACITY/SOURCES	1,330 Sheets/3	750 Sheets
MAXIMUM PAPER CAPACITY/SOURCES	4,030 Sheets/6	3,250 Sheets
PAPER WEIGHT	17–90 Lbs.	20–90 Lbs.
PAPER WEIGHT—BYPASS	Up to 140 Lbs.	20–110 Lbs.
PAPER WEIGHT—LARGE CAPACITY FEEDER	17–90 Lbs.	16–24 Lbs.
MINIMUM/MAXIMUM PAPER SIZE	5.5" x 8.5"/12" x 18"	5.5" x 8.5"/12" x 18"
ZOOM MAGNIFICATION	25–400%	50–400%
ELECTRONIC SORT CAPABILITIES	Standard	Not Available
SADDLE-STITCH FINISHER	Optional	Not Available
HOLE PUNCH	Optional	Optional
APS/AMS	Yes/Yes	Yes/Yes
AUTO TRAY SELECTION	Yes	Yes
QUANTITY SELECTOR	1–999	INA
ONE TOUCH COLOR MODES	Yes	Yes
BOOK COPYING	Standard	Standard
JOB INTERRUPT	Yes	Yes
PHOTO MODE	Yes	Yes
COLOR BALANCE ADJUSTMENT	Yes	Yes
SHARPNESS ADJUSTMENT	Yes	Yes
MIRROR IMAGE	Yes	Yes
OHP INTERLEAVING	Yes	Yes
JOB PROGRAMMING	8	10
TONER	Cartridge	Cartridge
TONER YIELD	10,700@6% Each Color/ 20,600@6% Black	10,000 @ 20% Coverage For Both Black and Color
DRUM YIELD	40,000	40,000
PM CYCLE	40,000	INA

MINOLTA CF2001/KONICA 7920

The Minolta CF2001 joins the emerging class of LED based technology, low-cost color copiers aimed at the general corporate office. The four in line drum system offers high-speed color printing and allows the drum units to be replaced easily. The CF2001 produces color and monochrome copies at 20 PPM, 600 x 600 dpi image resolution and features Minolta image-quality enhancement technologies such as LIMOS III and Fine Edge Enhancement.

The CF2001 is designed to be easy-to-use and maintain, with features such as automatic color calibration, automatic exposure mode, and consumables that are easy to replace. On the other hand, the CF2001 falls short on its reliance upon sorter bins for copy collation, the lack of stapling capability on sorter unit, the lack of option to select a separate paper source for the first page of a printed document, and the lack of cascade option on the mailbox sorter.

Minolta CF2001 Strengths

- Low MSRP
- Higher Print Output Resolution
- More Job Memories

Minolta CF2001 Weaknesses

- LED Image Base Technology
- Slower Monochrome and Color Copy/Print Output
- Lower Copy Image Resolution
- Lower Maximum Monthly Duty Cycle
- Longer FCOT for Monochrome and Color
- Longer Warm-up Time
- Single Sheet Manual Bypass
- Smaller Standard and Maximum Paper Capacity
- Only up to 110 Lbs. Index thru Bypass
- No Electronic Sort Capabilities
- No Saddle-Stitch Finisher Option

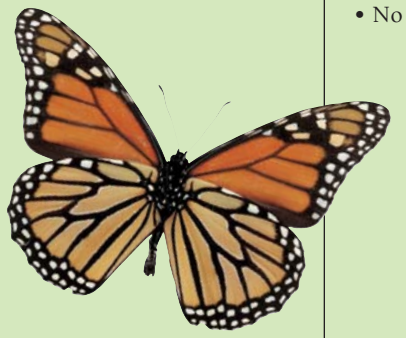
e-STUDIO210C vs. RICOH AFICIO 6513

FEATURES	e-STUDIO210C	RICOH AFICIO 6513
INTRODUCTION DATE	April 2002	April 2001
MSRP	$19,995	$22,995
COLOR CPM	21 CPM	13 CPM
COLOR PPM	21 PPM	13 CPM
B&W CMP	31 CPM	51 CPM
B&W PPM	31 PPM	51 PPM
IMAGING SYSTEM	Single Pass	4 Pass, Transfer Belt
IMAGE BASE	Laser	Laser
SCAN RESOLUTION	600 x 600 dpi	600 x 600 dpi
OUTPUT RESOLUTION (COPY)	9,600 x 600 dpi	600 x 600 dpi
OUTPUT RESOLUTION (PRINT)	600 x 600 dpi	4,800 x 600 dpi (Enhanced)
MAXIMUM MONTHLY COPY VOLUME	40,000	30,000
FIRST COPY OUT TIME (COLOR/B&W)	9.5 Sec./9.5 Sec.	14 Sec./7.3 Sec.
WARM-UP TIME	4 Min.	8.5 Min.
DOC FEEDER CAPACITY	50 Sheets	50 Sheets
BYPASS	Standard 130 Sheets	Standard 250 Sheets
DUPLEX FEATURE	Optional	Standard Auto
STANDARD PAPER CAPACITY/SOURCES	1,330 Sheets/3	1,500 Sheets/3
MAXIMUM PAPER CAPACITY/SOURCES	4,030 Sheets/6	3,250 Sheets/5
PAPER WEIGHT	17–90 Lbs.	17–140 Lbs.
PAPER WEIGHT—BYPASS	Up to 140 Lbs.	14–140 Lbs. Index
PAPER WEIGHT—LARGE CAPACITY FEEDER	17–90 Lbs.	14–34 Lbs.
MINIMUM/MAXIMUM PAPER SIZE	5.5" x 8.5"/12" x 18"	5.5" x 8.5"/13" x 19"
ZOOM MAGNIFICATION	25–400%	25–400%
ELECTRONIC SORT CAPABILITIES	Standard	Not Available
SADDLE-STITCH FINISHER	Optional	Not Available
HOLE PUNCH	Optional	Not Available
APS/AMS	Yes/Yes	Ye s/Yes
AUTO TRAY SELECTION	Yes	Yes
QUANTITY SELECTOR	1–999	1–999
ONE TOUCH COLOR MODES	Yes	No
BOOK COPYING	Standard	Standard
JOB INTERRUPT	Yes	Yes
PHOTO MODE	Yes	Yes
COLOR BALANCE ADJUSTMENT	Yes	Yes
SHARPNESS ADJUSTMENT	Yes	Yes
MIRROR IMAGE	Yes	Yes
OHP INTERLEAVING	Yes	Yes
JOB PROGRAMMING	8	10
TONER	Cartridge	Cartridge
TONER YIELD	10,700@6% Each Color/ 20,600@6% Black	13,300 @ 15% Coverage For Both Black and Color
DRUM YIELD	40,000	80,000
PM CYCLE	40,000	INA

RICOH AFICIO 6513

The Aficio 6513 is Ricoh's third generation color copier/printer introduced in April of 2001. The Aficio 6513 replaces the Aficio 6010/6110 products and offers a variety of new design improvement over its predecessors. However, the Aficio 6513 color outputs showed slightly dark in appearance, the matching of Pantone colors was not as accurate as other devices in the market and the reproduction of gray scales was below average according to a lab test conducted by BERTL.

The Ricoh Aficio 6513 showed it's strengths in paper handling features with a number of design improvements such as a full bleed 13" x 19" output, rated to handle up to 140 Lbs. Index paper, and the bypass tray capacity increased to 250 sheets. The Ricoh Aficio 6513 is targeted for two specific color environments: the Print Production/Pay for Print and the Graphics Arts and Design markets.



Ricoh Aficio 6513 Strengths

- Faster Monochrome Output
- Standard Auto Duplex
- 250-sheet Bypass Capacity
- Full Bleed 13" x 19" Paper Size
- Larger Standard Paper Capacity
- Higher Print Resolution
- Up to 140 Lbs. Paper Weight in Cassette
- More Job Memories
- Higher Drum Yield

Ricoh Aficio 6513 Weaknesses

- Higher MSRP
- Slower Full Color Output
- Lower Copy Output Image Resolution
- Smaller Maximum Paper Capacity
- Lower maximum Monthly Duty Cycle
- Longer FCOT
- Longer Warm-up Time
- No One Touch Color Modes
- No Electronic Sort Capabilities
- No Saddle-Stitch Finisher Option
- No Hole Punch Option

e-STUDIO210C vs. SHARP AR-C160

FEATURES	e-STUDIO210C	SHARP AR-C160
INTRODUCTION DATE	April 2002	June 2001
MSRP	$19,995	$18,500
COLOR CPM	21 CPM	16 CPM
COLOR PPM	21 PPM	16 PPM
B&W CMP	31 CPM	32 CPM
B&W PPM	31 PPM	32 CPM
IMAGING SYSTEM	Single Pass	4-Drum, Straight Pass
IMAGE BASE	Laser	Laser
SCAN RESOLUTION	600 x 600 dpi	600 x 600 dpi
OUTPUT RESOLUTION (COPY)	9,600 x 600 dpi	600 x 600 dpi
OUTPUT RESOLUTION (PRINT)	600 x 600 dpi	600 x 600 dpi
MAXIMUM MONTHLY COPY VOLUME	40,000	30,000
FIRST COPY OUT TIME (COLOR/B&W)	9.5 Sec./9.5 Sec.	9.8 Sec./9.8 Sec.
WARM-UP TIME	4 Min.	3.5 Min.
DOC FEEDER CAPACITY	50 Sheets	50 Sheets
BYPASS	Standard 130 Sheets	Standard 50 Sheets
DUPLEX FEATURE	Optional	Optional
STANDARD PAPER CAPACITY/SOURCES	1,330 Sheets/3	1,500 Sheets/3
MAXIMUM PAPER CAPACITY/SOURCES	4,030 Sheets/6	5,050 Sheets/6
PAPER WEIGHT	17–90 Lbs.	16–28 Lbs.
PAPER WEIGHT—BYPASS	Up to 140 Lbs.	16–140 Lbs. Index
PAPER WEIGHT—LARGE CAPACITY FEEDER	17–90 Lbs.	14–29 Lbs.
MINIMUM/MAXIMUM PAPER SIZE	5.5" x 8.5"/12" x 18"	5.5" x 8.5"/12" x 18"
ZOOM MAGNIFICATION	25–400%	25–400%
ELECTRONIC SORT CAPABILITIES	Standard	Not Available
SADDLE-STITCH FINISHER	Optional	Not Available
HOLE PUNCH	Optional	Not Available
APS/AMS	Yes/Yes	Yes/Yes
AUTO TRAY SELECTION	Yes	Yes
QUANTITY SELECTOR	1–999	1–999
ONE TOUCH COLOR MODES	Yes	Yes
BOOK COPYING	Standard	Standard
JOB INTERRUPT	Yes	Yes
PHOTO MODE	Yes	Yes
COLOR BALANCE ADJUSTMENT	Yes	Yes
SHARPNESS ADJUSTMENT	Yes	Yes
MIRROR IMAGE	Yes	Yes
OHP INTERLEAVING	Yes	Yes
JOB PROGRAMMING	8	9
TONER	Cartridge	Cartridge
TONER YIELD	10,700@6% Each Color/ 20,600@6% Black	25,864 Black/12,932 Color @ 6%/15%Coverage
DRUM YIELD	40,000	40,000
PM CYCLE	40,000	40,000

SHARP AR-C160

The AR-C160 is Sharp's third digital color copier (Replaces the AR-C150) to enter the color marketplace after their limited success with Ricoh's products. The system offers 16 full color copies/print per minute and 32 PPM monochrome at 600 x 600 dpi output resolution. The AR-C160 uses a four-drum in-line technology similar to Toshiba e-STUDIO series color copiers. The FCOT is 9.8 seconds in color and it has a warm-up time of less than 3.5 minutes.

Like most color devices from copier manufacturers, the Sharp AR-C160 is designed as a copier that converts into a printer by adding a RIP server (Raster Image Processor). Sharp is marketing the AR-C160 primarily as a fully configured printer with copying capability. Sharp's AR-C160 is targeted toward the Graphics Arts and Design and Print for Pay environments.

Sharp AR-C160 Strengths

- Faster Monochrome Output
- Larger Standard and Maximum Paper Capacity
- Faster Warm-up Time
- Lower MSRP
- More Job Memories

Sharp AR-C150/AR-C160 Weaknesses

- Lower Copy Image Resolution
- Slower Color Copy/Print Output
- Lower Maximum Monthly Duty Cycle
- Smaller Bypass Capacity
- Only up to 28 Lbs. thru the Feeder/Cassette
- No Electronic Sort Capabilities
- No Saddle-Stitch Option
- No Hole Punch Option

e-STUDIO310C vs. CANON CLC1150

FEATURES	e-STUDIO310C	CANON CLC1150
INTRODUCTION DATE	April 2002	May 1999
MSRP	$24,995	$35,200
COLOR CPM	31 CPM	11 CPM
COLOR PPM	31 PPM	11 PPM
B&W CMP	31 CPM	42 CPM
B&W PPM	31 PPM	42 PPM
IMAGING SYSTEM	Single Pass	4 Pass, Transfer Drum
IMAGE BASE	Laser	Laser
SCAN RESOLUTION	600 x 600 dpi (10 Bit)	400 x 400 dpi
OUTPUT RESOLUTION (COPY)	9,600 x 600 dpi	400 x 400 dpi
OUTPUT RESOLUTION (PRINT)	600 x 600 dpi	400 x 800 dpi (Enhanced)
MAXIMUM MONTHLY COPY VOLUME	60,000	35,000
FIRST COPY OUT TIME (COLOR/B&W)	9.5 Sec./9.5 Sec.	18.1 Sec./9.1 Sec.
WARM-UP TIME	4 Min.	8 Min.
DOC FEEDER CAPACITY	50 Sheets	100 Sheets
BYPASS	Standard 130 Sheets	Standard 250 Sheets
DUPLEX FEATURE	Optional	Standard Auto
STANDARD PAPER CAPACITY/SOURCES	1,330 Sheets/3	1,100 Sheets/2
MAXIMUM PAPER CAPACITY/SOURCES	4,030 Sheets/6	3,850 Sheets/4
PAPER WEIGHT	17–90 Lbs.	17–28 Lbs.
PAPER WEIGHT—BYPASS	Up to 140 Lbs.	17–110 Lbs. Index
PAPER WEIGHT—LARGE CAPACITY FEEDER	17–90 Lbs.	13–110 Lbs. Index
MINIMUM/MAXIMUM PAPER SIZE	5.5" x 8.5"/12" x 18"	8.5" x 11"/12" x 18"
ZOOM MAGNIFICATION	25–400%	25–400%
ELECTRONIC SORT CAPABILITIES	Standard	Not Available
SADDLE-STITCH FINISHER	Optional	Not Available
HOLE PUNCH	Optional	Not Available
APS/AMS	Yes/Yes	Yes/Yes
AUTO TRAY SELECTION	Yes	Yes
QUANTITY SELECTOR	1–999	1–100
ONE TOUCH COLOR MODES	Yes	Yes
BOOK COPYING	Standard	Standard
JOB INTERRUPT	Yes	Yes
PHOTO MODE	Yes	Yes
COLOR BALANCE ADJUSTMENT	Yes	Yes
SHARPNESS ADJUSTMENT	Yes	Yes
MIRROR IMAGE	Yes	Yes
OHP INTERLEAVING	Yes	Yes
JOB PROGRAMMING	8	9
TONER	Cartridge	Bottle
TONER YIELD	10,700@6% Each Color/ 20,600@6% Black	5,700 @ 35% Coverage (Both Black and Color)
DRUM YIELD	60,000	40,000
PM CYCLE	60,000	INA

CANON CLC1150

The CLC1120 and 1150 are in essence identical other than the CLC1120 not having an Auto Duplex Unit. Like a number of other color copier-printers, the CLC1100 series are standalone 400 x 400 dpi (800 x 400 dpi interpolated) color copiers that can be connected to print or network scan by adding external printer servers. The CLC1100 series is based on the same engine as the old Canon's CLC950 and there is no real innovation, just improvements on existing limitations, and elements are based on analog copier technology. The toner filling system is outdated (you have to pour the toner into the machine rather than use a snap-in cartridge) and the lack of automatic paper drawer switching decreases office productivity by increasing the re-stocking of paper into the cassette.

The CLC1150 are geared toward replacing the CLC900 series products in the field and also as upgrades to any of the CLC200, 300, 500, 700, and 800 series. The CLC1100 series is targeted towards the Corporate/ General Office and Graphic Arts and Design markets.

Canon CLC1150 Strengths

- Standard Auto Duplex
- Faster Monochrome Output
- Larger Document Feeder Capacity
- Larger Bypass Capacity
- Up to 110 Lbs. thru Feeder
- More Job Memories

Canon CLC1120/1150 Weaknesses

- Lower Scan and Copy Image Resolution
- Higher MSRP
- Slower Full Color Output
- Longer FCOT of 18.1 Seconds
- Longer Warm-up Time
- Less Multiple Copying
- Smaller Standard and Maximum Paper Capacity
- Only up to 110 Lbs. Index thru Bypass
- Lower Maximum Monthly Duty Cycle
- No RGB Adjustment Feature
- Outdated Toner Replacement System
- No Electronic Sort Capabilities
- No Saddle-Stitch Finisher Option
- No Hole Punch Option

e-STUDIO310C vs. CANON CLC2400

FEATURES	e-STUDIO310C	CANON CLC2400
INTRODUCTION DATE	April 2002	August 1998
MSRP	$24,995	$54,950
COLOR CPM	31 CPM	24 CPM
COLOR PPM	31 PPM	24 PPM
B&W CMP	31 CPM	24 CPM
B&W PPM	31 PPM	24 PPM
IMAGING SYSTEM	Single Pass	INA
IMAGE BASE	Laser	Laser
SCAN RESOLUTION	600 x 600 dpi (10 Bit)	INA
OUTPUT RESOLUTION (COPY)	9,600 x 600 dpi	400 x 400 dpi
OUTPUT RESOLUTION (PRINT)	600 x 600 dpi	400 x 400 dpi
MAXIMUM MONTHLY COPY VOLUME	60,000	75,000
FIRST COPY OUT TIME (COLOR/B&W)	9.5 Sec./9.5 Sec.	16 Sec./16 Sec.
WARM-UP TIME	4 Min.	7 Min.
DOC FEEDER CAPACITY	50 Sheets	100 Sheets
BYPASS	Standard 130 Sheets	Standard 250 Sheets
DUPLEX FEATURE	Optional	Standard Auto
STANDARD PAPER CAPACITY/SOURCES	1,330 Sheets/3	5,000 Sheets/3
MAXIMUM PAPER CAPACITY/SOURCES	4,030 Sheets/6	5,250 Sheets/4
PAPER WEIGHT	17–90 Lbs.	20–28 Lbs.
PAPER WEIGHT—BYPASS	Up to 140 Lbs.	20–110 Lbs. Index
PAPER WEIGHT—LARGE CAPACITY FEEDER	17–90 Lbs.	13–110 Lbs. Index
MINIMUM/MAXIMUM PAPER SIZE	5.5" x 8.5"/12" x 18"	4.125" x 5.875"/12" x 18"
ZOOM MAGNIFICATION	25–400%	25–400%
ELECTRONIC SORT CAPABILITIES	Standard	Not Available
SADDLE-STITCH FINISHER	Optional	Not Available
HOLE PUNCH	Optional	Not Available
APS/AMS	Yes/Yes	Yes/Yes
AUTO TRAY SELECTION	Yes	Yes
QUANTITY SELECTOR	1–999	1–999
ONE TOUCH COLOR MODES	Yes	Yes
BOOK COPYING	Standard	Standard
JOB INTERRUPT	Yes	Yes
PHOTO MODE	Yes	Yes
COLOR BALANCE ADJUSTMENT	Yes	Yes
SHARPNESS ADJUSTMENT	Yes	No
MIRROR IMAGE	Yes	Yes
OHP INTERLEAVING	Yes	Yes
JOB PROGRAMMING	8	Standard
TONER	Cartridge	Cartridge
TONER YIELD	10,700@6% Each Color/ 20,600@6% Black	8,500 Black/ 10,700 Color @ 35% Coverage
DRUM YIELD	60,000	65,000
PM CYCLE	60,000	INA

CANON CLC2400

The Canon CLC2400, launched in September 1998, is a modified version of the CLC1000. The CLC2400 was introduced to satisfy the demands of the low to mid-volume production color users who balked at the price of CLC1000. The CLC2400 offers 24 color and monochrome copies/prints per minute at 400 x 400 dpi copy output resolution. Although this product has slightly lower output speeds when compared to the e-STUDIO310c, its retail price is much higher at $54,950. The CLC2400 uses a four-drum in-line system similar to the e-STUDIO color series, allowing it to handle up to 110 Lbs. Index. The CLC2400 has a 16 seconds FCOT in color and is capable of 11" x 17" full-bleed imaging.

Since this is not Canon's only color offering, expect to encounter it in low to mid-volume Print for Pay accounts as an initial solution and also as a "sell down solution" for high-volume CLC1000 candidates with limited budgets.

Canon CLC2400 Strengths

- Higher Maximum Monthly Volume
- Larger Standard and Maximum Paper Capacity
- Larger Document Feeder Capacity
- Standard Auto Duplex
- Larger Bypass Capacity
- Up to 110 Lbs. thru the Feeder
- Higher Drum Yield

Canon CLC2400 Weaknesses

- Extremely High MSRP
- Slower Monochrome and Color Copy/Print Output Speed
- Lower Scan/Copy/Print Resolution
- Longer FCOT for Monochrome and Color
- Longer Warm-up Time
- Only up to 110 Lbs. Index thru the Bypass
- No Sharpness Adjustment
- No Electronic Sort Capabilities
- No Saddle-Stitch Finisher Option
- No Hole Punch Option

e-STUDIO310C vs. SHARP AR-C250

FEATURES	e-STUDIO310C	SHARP AR-C250
INTRODUCTION DATE	April 2002	July 2000
MSRP	$24,995	$31,950
COLOR CPM	31 CPM	25 CPM
COLOR PPM	31 PPM	25 PPM
B&W CMP	31 CPM	25 CPM
B&W PPM	31 PPM	25 PPM
IMAGING SYSTEM	Single Pass	Single Pass
IMAGE BASE	Laser	Laser
SCAN RESOLUTION	600 x 600 dpi (10 Bit)	600 x 600 dpi
OUTPUT RESOLUTION (COPY)	9,600 x 600 dpi	600 x 600 dpi
OUTPUT RESOLUTION (PRINT)	600 x 600 dpi	600 x 600 dpi
MAXIMUM MONTHLY COPY VOLUME	60,000	40,000
FIRST COPY OUT TIME (COLOR/B&W)	9.5 Sec./9.5 Sec.	10.2 Sec./19.5 Sec.
WARM-UP TIME	4 Min.	5.5 Min.
DOC FEEDER CAPACITY	50 Sheets	50 Sheets
BYPASS	Standard 130 Sheets	Standard 50 Sheets
DUPLEX FEATURE	Optional	Optional
STANDARD PAPER CAPACITY/SOURCES	1,330 Sheets/3	1,500 Sheets/3
MAXIMUM PAPER CAPACITY/SOURCES	4,030 Sheets/6	5,050 Sheets/6
PAPER WEIGHT	17–90 Lbs.	16–28 Lbs.
PAPER WEIGHT—BYPASS	Up to 140 Lbs.	16–110 Lbs. Index
PAPER WEIGHT—LARGE CAPACITY FEEDER	17–90 Lbs.	14–29 Lbs.
MINIMUM/MAXIMUM PAPER SIZE	5.5" x 8.5"/12" x 18"	5.5" x 8.5"/12" x 18"
ZOOM MAGNIFICATION	25–400%	25–400%
ELECTRONIC SORT CAPABILITIES	Standard	Not Available
SADDLE-STITCH FINISHER	Optional	Not Available
HOLE PUNCH	Optional	Not Available
APS/AMS	Yes/Yes	Yes/Yes
AUTO TRAY SELECTION	Yes	Yes
QUANTITY SELECTOR	1–999	1–999
ONE TOUCH COLOR MODES	Yes	Yes
BOOK COPYING	Standard	Standard
JOB INTERRUPT	Yes	Yes
PHOTO MODE	Yes	Yes
COLOR BALANCE ADJUSTMENT	Yes	Yes
SHARPNESS ADJUSTMENT	Yes	Yes
MIRROR IMAGE	Yes	Yes
OHP INTERLEAVING	Yes	Yes
JOB PROGRAMMING	8	9
TONER	Cartridge	Cartridge
TONER YIELD	10,700@6% Each Color/ 20,600@6% Black	25,864 Black/12,932 Color @ 6%/15%
DRUM YIELD	60,000	40,000
PM CYCLE	60,000	40,000

SHARP AR-C250

The AR-C250 is Sharp's second digital color copier to enter the color marketplace after launching the AR-C150 a few months prior. Differences between the Sharp AR-C150 and the AR-C250 are found in two areas: (1) Color Speed Throughput and (2) Finishing options. The speed has been increased from15 PPM to 25 PPM full color. Monochrome throughput speed remains unchanged. The AR-C250 delivers a 600 x 600 dpi image resolution, according to color copy tests conducted by BERTL, the AR-C250 has great flesh tones and metallic colors. However, it was not so good at capturing very fine shades/light colors.

Like most color devices from copier manufacturers, the Sharp AR-C250 is designed as a copier that converts into a printer by adding a RIP server (Raster Image Processor). Sharp is marketing the AR-C250 primarily as a fully configured printer with copy capability. Sharp's AR-C250 is targeted at the Graphics Arts and Design and Print for Pay environment.

Sharp AR-C250 Strengths

- Larger Standard and Maximum Paper Capacity
- More Job Memories

Sharp AR-C250 Weaknesses

- Higher MSRP
- Slower Monochrome and Color Copy/Print Output
- Lower Copy Image Resolution
- Lower Maximum Monthly Duty Cycle
- Longer FCOT for Monochrome and Color Output
- Longer Warm-up Time
- Smaller Bypass Capacity
- Only up to 110 Lbs. Index thru the Bypass
- Only up to 29 Lbs. thru the Feeder
- Lower Drum Yield
- No Electronic Sort Capabilities
- No Saddle-Stitch Option
- No Hole Punch Option

e-STUDIO310C vs. XEROX DOCUCOLOR 12

FEATURES	e-STUDIO310C	XEROX DOCUCOLOR 12
INTRODUCTION DATE	April 2002	August 1999
MSRP	$24,995	$31,495
COLOR CPM	31 CPM	12 CPM
COLOR PPM	31 PPM	12 PPM
B&W CMP	31 CPM	50 CPM
B&W PPM	31 PPM	50 PPM
IMAGING SYSTEM	Single Pass	4 Pass, Transfer Belt
IMAGE BASE	Laser	Laser
SCAN RESOLUTION	600 x 600 dpi (10 Bit)	400 x 400 dpi
OUTPUT RESOLUTION (COPY)	9,600 x 600 dpi	600 x 600 dpi
OUTPUT RESOLUTION (PRINT)	600 x 600 dpi	600 x 600 dpi
MAXIMUM MONTHLY COPY VOLUME	60,000	30,000
FIRST COPY OUT TIME (COLOR/B&W)	9.5 Sec./9.5 Sec.	14.1 Sec./5.8 Sec.
WARM-UP TIME	4 Min.	7.5 Min.
DOC FEEDER CAPACITY	50 Sheets	50 Sheets
BYPASS	Standard 130 Sheets	Standard 100 Sheets
DUPLEX FEATURE	Optional	Standard Auto
STANDARD PAPER CAPACITY/SOURCES	1,330 Sheets/3	2,150 Sheets/4
MAXIMUM PAPER CAPACITY/SOURCES	4,030 Sheets/6	4,250 Sheets/6
PAPER WEIGHT	17–90 Lbs.	16–32 Lbs.
PAPER WEIGHT—BYPASS	Up to 140 Lbs.	16–140 Lbs. Index
PAPER WEIGHT—LARGE CAPACITY FEEDER	17–90 Lbs.	16–28 Lbs.
MINIMUM/MAXIMUM PAPER SIZE	5.5" x 8.5"/12" x 18"	4" x 6.5"/12" x 18"
ZOOM MAGNIFICATION	25–400%	25–400%
ELECTRONIC SORT CAPABILITIES	Standard	Not Available
SADDLE-STITCH FINISHER	Optional	Not Available
HOLE PUNCH	Optional	Not Available
APS/AMS	Yes/Yes	Yes/Yes
AUTO TRAY SELECTION	Yes	Yes
QUANTITY SELECTOR	1–999	1–999
ONE TOUCH COLOR MODES	Yes	INA
BOOK COPYING	Standard	Standard
JOB INTERRUPT	Yes	Yes
PHOTO MODE	Yes	Yes
COLOR BALANCE ADJUSTMENT	Yes	Yes
SHARPNESS ADJUSTMENT	Yes	INA
MIRROR IMAGE	Yes	Yes
OHP INTERLEAVING	Yes	Yes
JOB PROGRAMMING	8	10
TONER	Cartridge	Cartridge
TONER YIELD	10,700@6% Each Color/ 20,600@6% Black	6,100 Black/ 7,800 Color @ 15% Coverage
DRUM YIELD	60,000	40,000
PM CYCLE	60,000	INA

XEROX DOCUCOLOR 12

The Xerox DocuColor 12 is a replacement product for the DocuColor 5799. This product offers a variety of enhancements over the 5799. These enhancements include: increased image quality and speed, full-bleed imaging capability, a wider range of throughput materials and standard automatic duplexing. The system offers 12 PPM in color and 50 PPM in monochrome at 600 x 600 dpi output resolution, however the system utilizes only a 400 x 400 dpi scanner unit. This system uses transfer belt imaging technology and it is rated to handle up to 14 Lbs. Index. The system has a 14.1 second color FCOT.

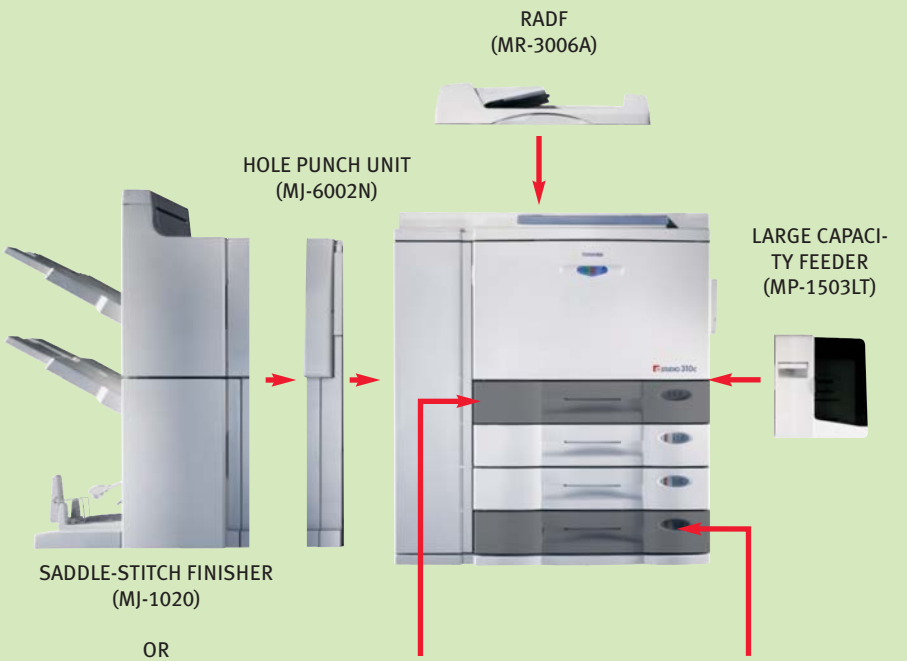
Since Xerox introduced this product with numerous enhancements but kept the retail price at the same level as the DocuColor 5799, expect to encounter this product in low-volume Print for Pay environments as well as Graphic Arts and Design markets. Xerox is also marketing this same engine to Corporate/General Office markets as the Document Centre Color 50 (the Document Centre Color 50 is the combination of DocuColor 12 plus the Splash RIP). Xerox will also use this product to upgrade its existing color customers in an effort to fight off competition from Ricoh and Canon. In addition, Xerox has released the DocuColor 12 printer only version. The printer only version is exactly the same as the copier/printer, except for the absence of the scanner on the top of the machine.

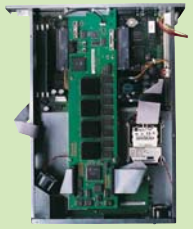
Xerox DocuColor Office 12 Strengths

- Faster Monochrome Output
- Standard RADF and Auto Duplex
- Faster FCOT for Monochrome
- Larger Standard and Maximum Paper Capacity
- More Job Memories

Xerox DocuColor Office 12 Weaknesses

- Higher MSRP
- Slower Full Color Copy/Print Output
- Lower Scan/Copy Image Resolution
- Longer FCOT for Color Output
- Longer Warm-up Time
- Lower Maximum Monthly Duty Cycle
- Smaller Bypass Capacity
- Only up to 28 Lbs. thru the Feeder
- Lower Drum Yield
- Optional Electronic Precollation
- No Saddle-Stitch Finisher Option
- No Hole Punch Option

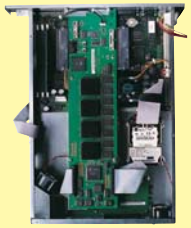




FIERY® X3e+ CONTROLLER
(GA-1120)

FIERY® Z5 CONTROLLER
(GA-1130)

GA-1120
Embedded Fiery® Print Board



- PostScript™ 3
- Standard 10/100BaseT Network Interface
- 700 MHz Processor
- 128 MB Memory (Expandable to 256 MB)
- 10 GB HDD
- Fiery® Software Suite
- Command WorkStation™
- WebTools™
- Fiery® Downloader
- Fiery® Scan
- ColorWise™ Pro Tools

Options

PART NUMBER	DESCRIPTION
KR-8006	LCD Control Panel (Required)
GB-1160	DocBuilder™ Pro
KR-7047	128 MB DIMM

GA-1130
External Fiery® Controller

- PostScript™ 3
- Standard 10/100BaseT Network Interface
- 866 MHz Processor
- 256 MB Memory (Expandable to 512 MB)
- 133MHz System Bus
- 512 K Level 2 Cache
- EFI Video Interface Card
- Fiery® RIPChips
- 40 GB HDD
- Internal 40x CD-ROM
- Internal 250 MB Zip Disk
- Fiery® Software Suite
- Command WorkStation™
- WebTools™
- Fiery® Downloader
- Fiery® Scan
- ColorWise™ Pro Tools
- FreeForm 2

Options

PART NUMBER	DESCRIPTION
KR-8005	Print Board Interface (Required)
GB-1160	DocBuilder™ Pro
KR-8009	Token Ring NIC
KR-7047	128 MB DIMM

BASIC COMPOSITION

Copying Process	Digital Electrostatic Photographic Method (Dry Process)
Copying System	Toshiba Color Inline Printing System: Scan Once/Print Many, Dual Compression Imaging Technology, 4-Beam Laser Unit, Single Pass 4-Drum Tandem Design
Print Resolution	9,600 x 600 dpi Equivalent Marking Engine; 256 Gradations
Scan Resolution	600 x 600 dpi; 1,024 Gradations
Type	Console
Copy Speed (e-STUDIO210c)	21 CPM Letter (Color)/31 CPM (B&W)
Print Speed (e-STUDIO210c)	21 PPM (Color)/31 PPM (B&W)(with Optional Fiery® Controller)
Copy Speed (e-STUDIO310c)	31 CPM (Color/B&W)
Print Speed (e-STUDIO310c)	31 PPM (Color/B&W)(with Optional Fiery® Controller)
First Copy Out Time*	9.5 Sec.
Warm-up Time	4 Min.
Multiple Copying	Up to 999 Copies
Reduction/Enlargement	25% to 400%
Maximum Original Size	Ledger
Minimum & Maximum Copy Size	Cassette: Ledger/Statement-R (17 Lbs. Bond–90 Lbs. Index)(Letter OHP); Stack Feed "Smart" Bypass: 12" x 18", Statement-R (up to 140 Lbs. Index); Large Capacity Feeder: Letter (17 Lbs. Bond–90 Lbs. Index)
Maximum Paper Capacity	4,030 Sheets: Cassette: 4 x 600 = 2,400; Large Capacity Feeder: 1,500; Stack Feed "Smart" Bypass: 130
Displays	LCD that Displays Interactive Screens with Touch Sensitive Keys for Making Copy Job Selections
Color Modes	Auto Color Selection Mode, Full Color Mode, Black Mode
Color Image Adjustment	Hue Adjustment, Saturation Adjustment, Color Balance Adjustment, RGB Adjustment, Sharpness Adjustment, Background Adjustment, One Touch Adjustment, Mono Color Adjustment
Dimensions (H x W x D)	39.4" x 33.3" x 29.6"
Weight	Approximately 421 Lbs.
Power Supply	120 Volts, 20A
Power Consumption	Maximum 2.0 kW
Photoconductor	Organic Photoconductors (4-Drums)
Maximum Monthly Duty Cycle	40,000 Pages (e-STUDIO210c), 60,000 Pages (e-STUDIO310c)

*Single copy via glass from upper Letter cassette without prescan function.

COPY OPTIONS

MR-3006A Reversing Automatic Document Feeder (RADF)	
Automatic Mode	Stack of up to 50 Letter/Letter-R Size Originals, 25 Sheets Legal or Ledger Size Originals (20 Lbs.)
Reversing Mode	Automatically refeeds Two-Sided Originals for One-Sided Copying or Two-Sided Copying
MD-5007 Automatic Duplexing Unit	
Media Size	Statement-to-Ledger (17–28 Lbs.)
MP-1503LT Large Capacity Feeder	
Paper Supply	1,500 Sheets
Paper Size	Letter (17 Lbs. Bond–90 Lbs. Index)
MJ-1020 Saddle-Stitch Finisher	
Paper Size	Ledger-to-Statement-R (Staple: 28 Lbs., Non-Staple: 140 Lbs. Index)
Tray Capacity	1st Bin: 1,000 Sheets (LT, ST-R), 500 Sheets (LT-R, LG, LD); 2nd Bin: 1,000 Sheets (LT, ST-R), 500 Sheets (LT-R, LG, LD)
Cascade	Yes
Offset	Yes
Staple Capacity	50 Sheets (LT), 30 Sheets (LT-R, LG, LD)
Saddle-Stitch Paper Size	LD, LT-R; Staple Capacity: 15 Sheets (17–20 Lbs.)
MJ-1019 Finisher	
Paper Size	Ledger-to-Statement-R (Staple: 28 Lbs., Non-Staple: 140 Lbs. Index)
Tray Capacity	1st Bin: 1,000 Sheets (LT, ST-R), 500 Sheets (LT-R, LG, LD); 2nd Bin: 1,000 Sheets (LT, ST-R), 500 Sheets (LT-R, LG, LD)
Cascade	Yes
Offset	Yes
Staple Type	Multi-Position (4 Kinds)
Staple Capacity	50 Sheets (LT); 30 Sheets (LT-R, LG, LD)
MJ-6002N Hole Punch Unit (Option for MJ-1019/1020)	
Type	2 or 3 Holes
MY-1020 Cassette Module	
Paper Supply	600-Sheet Cassettes (2)
Paper Size	Statement-R-to-Ledger (17 Lbs. Bond–90 Lbs. Index)
KK-2460 Work Tray	
KA-2060PC Platen Cover	
KE-FC22 Slot Cover	

Designs and specifications subject to change without notice. For best results and reliable performance, always use supplies manufactured or designated by Toshiba. Not all Options and Accessories may be available at the time of product launch. Please contact a local Authorized Toshiba Dealership for availability.

e-STUDIO210c e-STUDIO310c HARDWARE SPECIFICATIONS

FIERY® X3e+ PRINT CONTROLLER

Processor	Intel® Pentium® 700 MHz CPU
Operating System	Linux
Memory (RAM)	128 MB RAM (Standard), up to 256 MB RAM (Optional)
Print Resolution	600 x 600 dpi
Page Description Language Support	Adobe® PostScript™ 3
Duplex Modes	Auto, Manual Feed
Finishing	Staple, Hole Punch, Tray Selection, Image Shift, Saddle-Stitch
Network OS Support	Network OS AppleTalk®, Native Novell®, SMB (Windows® 95, 98, Windows® NT 4.0)
Protocol Support	IPX/SPX, TCP/IP
I/O Interface	KR-8006 LCD Control Panel
Hard Disk Drive	10.0 GB HDD
Major Print Features	Command WorkStation™, WebTools™, Scanning, Convenient LCD Control Panel

FIERY® X3e+ PRINT CONTROLLER OPTION

KR-8006	LCD Control Panel—Required
KR-7047	128 MB Print Memory
GB-1160	DocBuilder™ Pro

EFI FIERY® Z5 PRINT CONTROLLER

Processor	Intel® Pentium® 866 MHz
Operating System	Windows® NT 4.0
Memory (RAM)	256 MB RAM (Standard), up to 512 MB RAM
Disk Drive	40.0 GB Hard Disk, Standard CD ROM Drive, Zip Drive
Print Resolution	600 x 600 dpi
Page Description Language Support	Adobe® PostScript™ 3
Duplex Modes	Auto, Manual Feed
Finishing	Staple, Hole Punch, Tray Selection, Image Shift, Saddle-Stitch
Network OS Support	Network OS AppleTalk®, Native Novell®, SMB (Windows® 95, 98, Windows® NT 4.0)
Protocol Support	IPX/SPX, TCP/IP
I/O Interfaces	KR-8005 Print Board Interface
Supported OS	Supports Windows® 9x, Me, 2000, XP, Windows® NT 4.0, Macintosh® 8.6+
Special Features	Auto Calibration (Copy on e-STUDIO210c/310c Glass), ColorWise™ 3, Command WorkStation™, WebTools™, Scanning

EFI FIERY® Z5 PRINT CONTROLLER OPTION

KR-8005	Print Board Interface—Required
KR-7047	128 MB Print Memory
GB-1160	DocBuilder™ Pro

NETWORK SCANNING FEATURES (REQUIRES X3e+ OR Z5)

Scanning Method	CCD Line Sensor
Resolution	600 dpi, 10 Bit, 1,024 Gradations
Maximum Paper Size	Input: Ledger Output: Ledger
Scan Speed	25 Scans Per Min.
Document Input	RADF, Platen, or Client
Special Features (Fiery® Scan)	Network Scanning, TWAIN Compatible, Scan-to-Email, Scan-to-Hold Queue Scan-to-Mailbox

e-STUDIO210c e-STUDIO310c CONFIGURATION WORKSHEET

BASE MODEL

COVER OPTIONS (SELECT ONE)

☐ PLATEN COVER (KA-2060PC)

☐ RADF (MR-3006A)

DRAWER OPTIONS (SELECT TWO)

☐ SLOT COVER (KE-FC22)

☐ CASSETTE (MY-1020)

☐ ADU (MD-5007)

MACHINE OPTIONS

☐ SADDLE-STITCH FINISHER (MJ-1020)

☐ MULTI-POSITION FINISHER (MJ-1019)

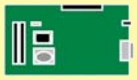
☐ HOLE PUNCH UNIT (MJ-6002N)

☐ LARGE CAPACITY FEEDER (MP-1503LT)

☐ WORK TRAY (KK-2460)
☐ WORK TRAY BRACKET (KN-FC22W01)
☐ STAPLE-600 REPLACEMENT CARTRIDGE
☐ STAPLE-700 REPLACEMENT CARTRIDGE

CONNECTIVITY OPTIONS

☐ Z5 EXTERNAL CONTROLLER (GA-1130)



☐ Z5 PRINT INTERFACE BOARD (KR-8005)

☐ X3e+ EMBEDDED CONTROLLER (GA-1120)

☐ X3e+ LCD CONTROL PANEL (KR-8006)

☐ DOCBUILDER™ PRO (GB-1160)

☐ 128 MB MEMORY (KR-7047)